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Dear Dr. Lederberg:

I have received your letter of May 26, for which I wish to express my appreciation. Your findings on *E. coli* and your opinions in regards to them are of a great suggestive value to me.

As we doubted whether the 3, 10, 15 types represent mixtures of 3, 10 and 3, 15, we first obtained single cells from each variant strains by micromanipulation, and then single colonies were examined but neither 3, 10 nor 3, 15 could be detected as far as tested. This, however, is not conclusively, because the number of colonies examined has to be limited to a relatively small number, and therefore another method is now being employed. I would like to ask what the rate of XX', X and X' cells in the second stage is.

On the other hand, however, another explanation seems to be possible. The 3, 15 type of cell, whether it may be an E₁ group strain or an antigenic variant induced by the phage, can be considered to retain genetic traits responsible for formation of 10 antigenic factor, because 3, 15 type can be altered to 3, 10 type by cultivating in broth containing 15 antiserum. Then there might be a possibility that the 3, 10, 15 types do not necessarily segregate into 3, 10 and 3, 15 types.

We both agree that the most important point is whether every lysogenized E₁ group cell becomes 3, 15 or 3, 10, 15. Though it is technically difficult to test this point, efforts will be made along this line.

I do not know how to thank you enough for offering to proof read and correct my papers. Unfortunately I do not have any acquaintance who would be able to assist me in this matter and I could ask nothing better.

Yours sincerely,

植竹 久雄
Ue take Hisao

Hisao Uetake